III. Issues, Analysis and Considerations

3.1 ISSUE: Recreational dredge mining

A. Issue Statement: Recreational dredge mining permit/regulation process is adequate in the South Fork Clearwater River basin.

Discussion

Recreational dredge mining is defined as mining with power sluices, small recreational suction dredges with a nozzle 5 inches in diameter or less and equipment rated at a maximum of 15 horsepower. Recreational dredge mining is regulated in Idaho under the Stream Channel Protection Act. This statute requires dredge miners to obtain a permit from IDWR before recreational dredge mining can be started. The state's One Stop Recreational Dredge Mining Permit does not require a National Pollution Discharge Elimination System (NPDES) permit. State regulations also specify the streams where recreational dredging is prohibited. Suction dredging that is not considered "recreation" is currently considered a "point source" of pollution requiring a National Pollution Discharge Elimination System permit from the U.S. Environmental protection agency. Recreational dredge mining is only allowed on the mainstem South Fork Clearwater River. Due to budgetary constraints of the Stream Channel Unit of the Resource Protection Bureau at IDWR, and to possible dredge mining limitations from the TMDL for the South Fork Clearwater River, current management and regulation of recreation dredge mining on the South Fork Clearwater River may be changing in 2005.

- The State of Idaho forbids use of recreational dredges within 500 feet of a developed campground, and the USFS prohibits their use in national recreation areas and protected rivers.
- Recreational suction dredges or sluices operated properly in a stream channel do not cause a great deal of environmental damage unless they are used in fish spawning beds (redds) at the wrong time of year. Redds could be damaged or totally destroyed by dredging. Eggs of salmonids prior to the eyed-up stage and sac fry would suffer high mortality if entrained by dredging (Griffith and Andrews 1981).
- Operation of recreational dredges in the South Fork Clearwater River would have some minor impacts on aquatic invertebrates (Griffith and Andrews 1981). Few insects would be killed but some would likely be displaced downstream. Thomas (1985) found lower abundance of aquatic insects in a 35-meter section of dredged stream. Recolonization was complete in a month after dredging.
- The South Fork Clearwater River may be dredged from July 15 to Aug 15 under the Recreational Dredging Permit if request is made on the Special Supplement. The site must also be inspected by IDWR with a fishery biologist. With that authorization, IDWR will issue a letter of approval. The rest of the drainage is closed under the Recreational Dredging Permit, but approval may be granted to dredge in the waters not open under the recreational permit if application is made using form 3804-B (Joint Application for a Permit). The limited season and permits minimize the impacts discussed under the two previous bullets.

Recommendations:

Currently, numerous laws regulate or restrict dredge mining in the mainstem South Fork Clearwater River including the Clean Water Act, the Stream Channel Protection Act, the Endangered Species Act and others. It is unlikely, that a new recreational dredging operation could be conducted in the South Fork Clearwater River without adequate review and environmental safe guards. Therefore, the IWRB does not recommend changing the current recreational dredge mining permit/regulation process.

3.2 ISSUE: Declining ground water on the Camas Prairie

B. Issue Statement: Ground water levels near Grangeville and in the Camas Prairie area of the South Fork Clearwater River basin may be declining.

Discussion

Aquifers, subsurface water-saturated formations of fractured rock or gravel, are encountered in the area around Grangeville. Geologists develop an understanding of aquifers and ground water flow patterns by mapping rock outcroppings, reviewing well logs and measuring the depth to water in wells. Pumping ground water can cause a decline in water level in an aquifer. If aquifer recharge is less than loss from discharge and pumping, then the water level will drop.

Castelin did the first work on ground water supply and availability in the Camas Prairie area and found that intricate geology of the area creates a unique environment for the complex movement of ground water (Castelin 1976).

Ralston et al.(1993) found that water level declines in and around the City of Grangeville ranged up to 21 feet per year. Ground water decline in the area was faster than other parts of Idaho. Ground water withdrawals appear to be exceeding recharge in the Grangeville area. Much of the decline was attributed to poor well construction and penetration of multiple aquifers with deep wells. Many of the deep wells were constructed without casings, likely allowing water from the shallow aquifers to drain to lower zones (Ralston, et al. 1993). To address the declining ground water, it was recommended that several deep wells in the area be reconstructed to prevent commingling. In this case, commingling refers to the upper aquifer draining into the lower aquifer. IDWR has hired a consultant to update the Well Construction Standards Rules and to investigate other related issues. In addition, Ralston also recommend that another deep well be drilled by the city. This has been done and the well contributes significantly to the city water supply.

A water system engineering study was prepared for the City of Grangeville (Entranco 2003). Both the quantity and quality of the source of city water is adequate to meet current and projected demand until 2022. Little or no growth is projected for the city and water demand is flat or declining. However, Entranco also recommended that the City of Grangeville continue to monitor the production capacity of its' three sources from the shallow ground water aquifer.

Although ground water levels have declined in the Grangeville area, it is not a critical issue at this time (Ralston 2003). Sometime in the future (25 to 50 years), ground water supply in the Grangeville area could be a significant issue. Ralston (1993) stated that monitoring ground water levels in the Grangeville area would be prudent and recommended in 1993 that a study of ground water be conducted every 10 years.

Recommendations:

- A study by IDWR to update Ralston's work in 1993 should be conducted.
- IDWR should evaluate ground water levels in the Grangeville area to monitor trends especially in the shallower aquifers wells.
- If ground water level declines are found to be a problem, IDWR should evaluate the feasibility of stabilizing groundwater levels in the Grangeville area.

3.3 ISSUE: Other projects in the basin

C. Issue Statement: The IWRB acknowledges the efforts of the Clearwater Subbasin Assessment and the Clearwater Focus Watershed Project.

Discussion

The Clearwater Subbasin Assessment and Plan, part of the rolling provincial review process developed by the Northwest Power and Conservation Council (NWPCC), will be used to facilitate future management of resources affecting fish and wildlife. The Clearwater Subbasin Assessment was completed in 2002. The data and information gathered in the assessment was used in creating the initial draft of the Clearwater Subbasin Plan. After review and comment from the NWPPCC and the Columbia Basin Fish and Wildlife Authority, the Clearwater Subbasin Plan is being revised. Once revisions are made and the Subbasin Plan is approved the Clearwater Focus Program will begin implementation.

Recommendation:

The IWRB acknowledges the usefulness of information from the work of the Clearwater Focus group in their efforts in development of the Subbasin Assessment (http://www.nwppc.org/library/releases/2002/1113.htm) and Subbasin Plan (http://www.nwppc.org/library/isrp/isrp2003-3.htm) to address the numerous factors impacting anadromous and resident fish within the Columbia Basin.

3.4 ISSUE: Instream flows on public land streams

D. Issue Statement: The South Fork Clearwater River basin has a large area of public land without protected instream flows for anadromous and resident fish, wildlife, recreational and other activities afforded by the Nez Perce NF.

Cooperative Efforts

The Organic Administration Act of 1897 establishing the National Forest System (NFS) recognized the importance of water and water management. However, whether or not water on NFS lands is part of the federal estate has been the source of controversy, debate and litigation between states and the federal government. Based upon existing laws and court rulings, the USFS is required to pursue protection of instream flows through each state's water rights appropriation statutes. In Idaho, state law requires that minimum stream flow rights for the protection of fish

and wildlife, water quality, recreation, and other beneficial uses be established through the IWRB's Minimum Stream Flow Program, and such rights can be held only by the IWRB, in the public's behalf.

Recognizing the need to protect necessary minimum stream flows in the Nez Perce National Forest, and the problems associated with federal ownership of instream flow water rights in Idaho, the USFS and the IWRB signed a MOU in August 2000, and a supplemental MOU in 2001 for implementation in the South Fork Clearwater basin. One component of the supplemental MOU was for the USFS and IWRB to jointly identify and prioritize instream flow needs, streams to be considered as state protected rivers, water development and stream channel protection needs and other water related issues for consideration in the comprehensive state water plan and forest planning.

Like any other water right, a minimum stream flow must take its place by priority. A minimum stream flow right is filled only when senior rights have been satisfied. The process for the IWRB to acquire a minimum stream flow water right is separate, but maybe initiated through comprehensive state water planning process. Studies to determine the quantity and timing of the minimum stream flow and the beneficial uses to protect must be conducted before a minimum stream flow is granted. The IWRB can then submit an application to the director of the IDWR, who determines whether to grant the right in accordance with Title 42, Chapter 15 of the Idaho Code. Minimum stream flows granted by the director are approved by concurrent resolution of the Idaho State Legislature

Discussion

The South Fork Clearwater River basin contains a significant amount of high to very high potential fish habitat, and is an important area for fish species when evaluated within the broader context of the Columbia River basin (USFS 1999). The basin currently provides habitat for ESA listed species (fall chinook, steelhead, bull trout) and Idaho Endangered or Sensitive Species (Pacific lamprey, redband trout, spring chinook, westslope cutthroat trout). The resident species in the system are thought to be of wild origin, and the system supports both resident and fluvial life histories of westlope cutthroat trout and bull trout. All species remain widely distributed, although the abundance has declined significantly from historic levels (USFS 1999).

The combination of resident and migratory life histories in fish is a strategy for disturbance-based systems, such as the South Fork Clearwater River basin. The intermixing of local subpopulations with metapopulations is also an adaptive strategy (USFS 1997). The problem is that natural disturbance cycles/characteristics have been altered and/or replaced by man-made disturbances. Fish populations are widely distributed, but the distributions are likely quite different than historically. Fish abundance appears to have declined significantly. Viability of the fisheries is at risk due to in-basin and downstream factors that limit flexibility and alter life history strategies (USFS 1997).

Within the lower basin (Cottonwood Creek drainage), BLM's 1999 biological assessment showed suboptimal support for salmonids (IDEQ et al. 2000, Appendix D). Higher temperatures, sediment (suspended and bedload), and loss of habitat in the lower South Fork Clearwater River have reduced connectivity for migrating adult fish (ISWCD 2001).

While only seven segments have been listed for temperature on the 303(d) list, the subbasin assessments within the South Fork Clearwater River basin indicates water temperature is a basin-wide problem. The current standard for the protection of cold-water biota is water temperature of

22ºC (71.6 º F) with a maximum daily average of 19 º C (66.2 º F) (IDEQ et al. 2002). The standard for salmonid spawning is water temperature of 13 º C (55.4 º F) or less with a maximum daily average no greater than 9 º C (48.2 º F) during the spawning season. Stream channelization, lack of riparian cover, and altered flow regimes are contributing factors to the temperature problem, resulting in wide, shallow channels that increase the river's ability to absorb heat (IDEQ et al. 2000, 2002).

Habitat for spawning, feeding, resting, brood rearing, and escape must be provided by the riverine system. Significant areas still exist where uplands, riparian areas and stream conditions are relatively intact. For instance upper Johns and Tenmile Creeks (highlands of the Hump) have had little mining influence and are probably the best habitat for many salmonid species (IDEQ et al. 2002). There is also a significant amount of high to very high potential to support fish within the Nez Perce NF (USFS 1997). Adequate flows are required to provide these high quality instream habitats.

Long-Term Fish Habitat Sustainability

Minimum stream flows in Idaho are established based on the minimum (not optimum) amount of water needed to maintain instream beneficial uses such as water quality, recreation, and fish and wildlife. To date, minimum stream flow analyses for fish habitat have focused solely on short-term requirements, and have not included long-term sustainability issues.

Flushing flows maintain the stability and effective function of stream channels (Rosgen et al. 1986), and are a critical requirement to long-term sustainability of healthy riverine systems in the South Fork Clearwater River basin. Several assessments have examined the health and sustainability of the biological community within the South Fork Clearwater River basin. The assessments (IDEQ et al. 2000; USFS 1997; IDEQ-BURP, IDEQ et al. 2000, 2002; SAWQP, ISWCD 2001) indicate that the riverine habitat is negatively impacted by a variety of land and water uses. Improvements to habitat cannot be obtained unless functional channels are reestablished (Petts and Catlow 1996, Gordon et al. 1992). Cobble embeddedness occurs when fine sands and silts are deposited over larger substrate particles (gravel, rubble, cobble, boulder). Cobble embeddedness greater than about 30% is considered harmful to cold water biota and fisheries. Increased cobble embeddedness within the river and many tributaries has adversely affected salmonid spawning, juvenile survival, and density and diversity of macroinvertebrates. Minimum streamflow analyses for the South Fork Clearwater River basin have included this important component. The beneficial use of flushing flows is provided to these systems at intervals outside the current standard used by the IWRB (flow must be met at least 50% of the time).

Recommendation:

- Idaho's water resources are valuable. Water provides irrigation, domestic and industrial uses, fish and wildlife habitat, recreation, and aesthetics. To preserve these values and protect downstream water rights in this basin, the IWRB had committed to filing for minimum stream flow water rights on the following streams:
    - **Red River**
    - **American River**
    - **Crooked River**
    - **Newsome Creek**

- **Tenmile Creek**
- **South Fork Clearwater River**
- **Johns Creek**
- **Mill Creek**
- **Meadow Creek**

These streams proposed for minimum stream flows had been selected based on cooperative efforts between the IWRB planning staff, USFS personnel, Idaho Fish and Game, and the Nez Perce Tribe. Soon after the IWRB had approved the final draft of this plan, the State of Idaho, the Department of the Interior, the Nez Perce Tribe and others announced the development of a framework for a proposed settlement agreement (see page 4). One component of this agreement is the establishment of minimum stream flow water rights on streams in the Salmon and Clearwater basins. All of the streams recommended in this plan for IWRB consideration of minimum stream flow water rights were included in the settlement agreement as category A streams and will be considered for legislative enactment in 2005. Streams in the A category will have minimum stream flow water rights set by month based upon the estimated hydrology of the unimpaired flows, and a reservation for future non-domestic, commercial, municipal, and industrial (DCMI) uses. The exceedence level for each month for streams in federally managed lands is 40%. In other words, the minimum flow rate will be met or exceeded four years out of ten. The only exception to this is the 50% exceedence level on the South Fork Clearwater mainstem due to adjoing privately owned lands along portions of the river. The non-DCMI reservation will be 10% and 25% respectively, of the minimum monthly median flow developed from the estimated hydrology for streams surrounded by federal and private lands. Several conditions must be met for the settlement agreement to be completed, but if the conditions are met, the streams listed above will have adjudicated minimum stream flow water rights.

The proposed settlement agreement includes minimum stream flows that were not recommended in the plan. Cougar Creek, Peasley Creek, Silver Creek, South Fork Red River, and Big Elk Creek will be adjudicated as list A minimum stream flows at 40% (federal land) exceedence levels. In addition, Three Mile Creek, Sally Ann Creek, and Rabbit Creek will be adjudicated as list A minimum stream flows at 50% (state and private land) exceedence levels.

The proposed Nez Perce Tribe settlement agreement also included a stream, Cottonwood Creek, located in the South Fork Clearwater River basin, that is in category B. Category B streams are those where minimum stream flows and non-flow related actions will be developed, pursuant to state law, by the settlement parties in consultation with local stakeholders. The parties will consider the present hydrograph and status of state-granted water rights when negotiating minimum stream flow water rights. These minimum stream flows may be supported by transactions between willing sellers and willing buyers through the Board's water bank.

3.5 Protection Designations

A comprehensive state water plan may designate outstanding waterways as "protected:" as either a "natural" or "recreational" river. Both protection designations are defined by Idaho Code 42-1731(7) and (9) as " … a waterway which possesses outstanding fish and wildlife, recreation, geologic, or aesthetic values…"

- **Natural Rivers** are free of substantial human development in the waterway, and the riparian area is lacking significant human development (but may be accessible in places by trails or

roads).

- **Recreational Rivers** may include human development in the waterway or the riparian area.

The IWRB considers the impacts of protected river designations on the social, economic, and environmental well being of the region. A protection designation is made if the IWRB determines the value of preserving the waterway is in the public interest and outweighs development for other beneficial uses (Idaho Code 42-1734A(4)). Under a natural river designation, the following activities are prohibited:

- Construction or expansion of dams or impoundments
- Construction of hydropower projects
- Construction of water diversion works
- Dredge or placer mining
- Alterations of the stream bed
- Mineral or sand and gravel extraction within the streambed

Under a recreational river designation, the IWRB determines which of these activities will be prohibited, and may specify terms and conditions for activities not listed (Idaho Code 42-1734A(5).

Prohibitions do not interfere with activities necessary to maintain and improve *existing* utilities, roadway systems, managed stream access facilities, diversion works, or private property. Natural and recreational designations do not change or infringe upon *existing* water rights or other vested property rights. Existing valid mining claims are property rights and are not obstructed by designations. However, future mining claims that impact the stream channel would be prohibited by a natural designation and could be prohibited by a recreational designation.

As a part of the development of the *South Fork Clearwater River Basin Comprehensive State Water Plan*, streams were identified that will benefit from state protection designation to protect current values for the people of Idaho. Streams that were outstanding in at least two of the three screening categories (biological, recreational, aesthetic) were considered for protection, and were prioritized and selected with significant input from and collaboration with the watershed advisory group, and state and federal agencies.

Potential Effects of Designation

There are potential benefits and costs of designating rivers for protection under state law. Benefits include the maintenance and possible improvement of fish and wildlife habitat, recreational uses, and scenic qualities provided by an intact riverine environment. Economic benefits may come from increased local spending by fishermen, recreationists and other benefits of a healthy river system.

Possible costs, (foregone development), depend on the specific prohibitions and conditions placed on a designated river. On the South Fork Clearwater, this may include foregoing construction of hydropower plants, commercial dredge and placer mining operations, and sand and gravel extraction from the streambed. Timber operations are governed by other state and federal regulations and would not be affected by designation, with the possible exception of some types

of stream crossings. However, designations are not intended to prevent stream crossings for silvacultural or recreational activities that do not harm the stream channel. Dispersed livestock watering would not be affected by designation.

Designated Waters in the South Fork Clearwater River Basin

Recommendation:

The IWRB has determined that the value of preserving the designated waterways of the South Fork Clearwater River basin is in the interest of and for the benefit of the state as a whole. All landowners – private, state, and federal – are encouraged to manage their lands consistent with the IWRB's protection designations. The IWRB also encourages federal resource management agencies to work within the comprehensive state water planning process rather than pursuing federal protection of waters within Idaho.

To protect the public interest, current resource use, and the multiple-use character of the basin, the Idaho Water Resource Board designates the following streams and stream segments (approximately 54 miles) as **Natural Rivers** (see Map 3) based upon the analysis from Section IV, Resource Summary and Evaluation. All of the Natural designated rivers in the South Fork Clearwater River Basin are on federal land and most originate in Wilderness areas.

1) **Tenmile Creek** - (10 miles) from headwaters to Wilderness boundary and the following tributary:
    - **Williams Creek** - (5.2 miles): Headwaters to confluence with Tenmile Creek,
2) **Twentymile Creek – (**3 miles**):** Headwaters to Wilderness boundary**,**
3) **Johns Creek** - (8 miles): from headwaters to Wilderness boundary, and the following tributaries:
    - **Hagen Creek** - (4.4 miles): Headwaters to confluence with Johns Creek,
    - **Square Mountain Creek** - (5.0 miles) Headwaters to confluence with Moores Creek:
    - **Moores Creek** - (6.4 miles): Headwaters to confluence with Square Mountain Creek,
    - **Gospel Creek** - (6.6 miles): Headwaters to confluence with Johns Creek,
    - **West Fork Gospel Creek** - (5.2 miles): Headwaters to confluence with Gospel Creek,

To protect the public interest, current resource use, and the multiple-use character of the basin, the Idaho Water Resource Board designates the following streams and stream segments (approximately 324 miles) as **Recreational Rivers** (see Map3) based upon the analysis from Section IV, Resource Summary and Evaluation:

1) **Red River** (27.2 miles) Headwaters to confluence with American River, **and the following tributaries**:
    - **Otterson Creek** - (3.5 miles): Headwaters to confluence with Red River,
    - **South Fork Red River** - (11.7 miles): Headwaters to confluence with Red River,
    - **West Fork Red River** - (4.3 miles): Headwaters to confluence with Middle

South Fork Red River,

- **Moose Butte Creek** - (3.5 miles): Headwaters to confluence with Red River,
- **Red Horse Creek** - (8.2 miles): Headwaters to confluence with Red River,

2) **American River** (21.6 miles) Headwaters to confluence with South Fork Clearwater, **and the following tributaries**:
   - **Limber Luke Creek** - (2.8 miles): Headwaters to confluence with American River,
   - **West Fork American River** - (5.0 miles): Headwaters to confluence with American River,
   - **East Fork American River** - (6.5 miles): Headwaters to confluence with American River,
   - **Kirks Fork** - (6.8 miles): Headwaters to confluence with American River,

3) **Crooked River** (11.6 miles) Headwaters to confluence with South Fork Clearwater, **and the following tributary**:
   - **Relief Creek** - (6.3 miles): Headwaters to confluence with Crooked River,
   - **East Fork Crooked River** – (7.1 miles): Headwaters to confluence with Crooked River,
   - **West Fork Crooked River** - (5.3 miles): Headwaters to confluence with Crooked River,

4) **Newsome Creek** (15.7 miles) Headwaters to confluence with South Fork Clearwater, **and the following tributaries**:
   - **Haysfork Creek** - (5.0 miles): Headwaters to confluence with Newsome Creek,
   - **Baldy Creek** - (6.1 miles): Headwaters to confluence with Newsome Creek,
   - **Pilot Creek** – (6.0 miles): Headwaters to confluence with Newsome Creek,
   - **Sawmill Creek** – (3.6 miles) Headwaters to confluence with Newsome Creek,
   - **Sing Lee Creek** - (3.0 miles): Headwaters to confluence with Newsome Creek,
   - **West Fork Newsome Creek** - (6.0 miles): Headwaters to confluence with Newsome Creek,

5) **Tenmile Creek** (7 miles)–Wilderness boundary to confluence with South Fork Clearwater **and the following tributary**:
   - **Sixmile Creek** - (4.7 miles): Headwaters to confluence with Tenmile Creek,

6) **Twentymile Creek**- (8 miles): Wilderness boundary to confluence with South Fork

Clearwater,

7) **Wing Creek** - (5.1 miles): Headwaters to confluence with South Fork Clearwater,

8) **Silver Creek** - (15.9 miles): Headwaters to confluence with South Fork Clearwater,

9) **Johns Creek –** (12 miles): Wilderness boundary to confluence with South Fork Clearwater,

10) **Meadow Creek** - (15.2 miles): Headwaters to confluence with South Fork Clearwater,

11) **Mill Creek** - (15.9 miles): Headwaters to confluence with South Fork Clearwater,

12) **South Fork Clearwater** (63.8 miles) Headwaters to confluence with Middle Fork Clearwater

The following activities are prohibited on all streams designated as recreational rivers in the South Fork Clearwater River basin. Specific stream segments and water bodies that have exceptions to the general prohibitions are listed below.

Prohibited activities:

- Construction or expansion of dams or impoundments;
- Construction of hydropower projects;
- Construction of diversion works;
- Dredge or placer mining (including recreational dredging, except where allowed through application for permit, Form 3804-B);
- Mineral or sand and gravel extraction within the stream channel;
- Alterations of the stream channel, except as provided below.

Activities allowed with terms and conditions: The following activities are allowed if they do not impede fish passage, spawning, rearing and boat passage:

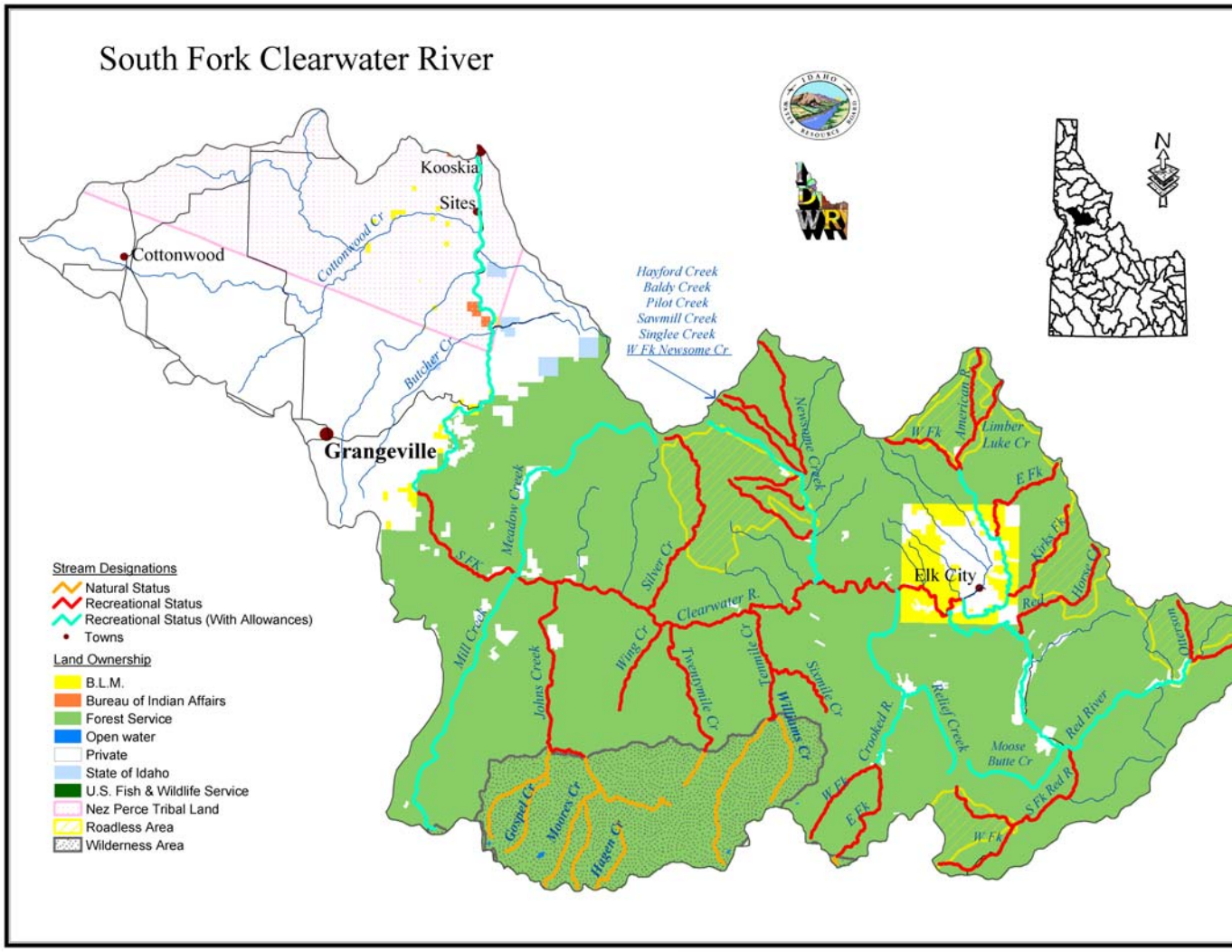
- Alterations of the stream channel for construction and maintenance of:
    - roads, bridges, and trails;
    - public recreation facilities;
    - fish and wildlife enhancement structures;
    - and channel reconstruction projects approved by the IWRB.

Recreational Designated Streams with Exceptions to Prohibited Activities: The following rivers or streams are adjacent to privately owned land which may require construction of diversion works for domestic, municipal or agricultural uses.

1. South Fork Clearwater River, from the Nez Perce National Forest boundary to confluence with Middle Fork Clearwater:
2. Red River and Moose Butte Creek
3. American River, mainstem only
4. Relief Creek
5. Crooked River, mainstem only
6. Newsome Creek mainstem and Pilot Creek
7. Meadow Creek
8. Mill Creek

Exceptions to Prohibited activities: Construction of water diversion works for domestic, municipal, and agricultural uses is allowed on the specified water bodies (1 – 8) if they do not impede fish passage, spawning, rearing or boat passage:

All activities must comply with all state stream channel alterations rules and standards. All works must be constructed or maintained to minimize erosion and sedimentation.



Map 3. Recommended protected river designations